UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,664	03/29/2001	Li Xu	71795/11926	6159

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EXAMINER
SHEW, JOHN

ART UNIT	PAPER NUMBER
2664	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/821,664	XU ET AL.
	Examiner	**Art Unit**
	John L Shew	2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) _____ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *18-22* is/are allowed.

6) ☒ Claim(s) *1-7,9,11,12,16 and 17* is/are rejected.

7) ☒ Claim(s) *8,10 and 13-15* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/29/01*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6, 9, 11, 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kung

et al.

Claim 1, Kung teaches a data switching node having a switching engine (FIG. 4, column

5 lines 54-67, column 6 lines 1-12) referenced by the IP Central Station 200 with a

switching engine to connect the Internet 180 with the PSTN 160, comprising a) a data

traffic management database (FIG. 2, column 8 lines 64-67, column 9 lines 1-16,

column 10 lines 1-16, column 11 lines 36-55) referenced by the databases of the

System Management Server 216 and the Call Manger 218 particularly the Least Cost

Routing Database, b) a data traffic management processor updating the data traffic

management database in performing data traffic management (FIG. 2, column 8 lines

64-67, column 9 lines 1-9) referenced by the System Management Server 216 providing

various database management functions, c) a data switching processor switching data

traffic based on routing entries in a switching database subject to data traffic shaping

criteria held in the traffic management database (FIG. 2, column 7 lines 34-65, column 9

lines 10-16) referenced by the Central Router 210 switching data using data from the

Least Cost Server 255 and the Domain Name Server 214 where the Least Cost Server

database carries traffic shaping criteria based on cost and Quality Of Service, whereby

the data traffic management processor relieves the data switching processor of

intensive traffic management computations in providing guaranteed levels of service (

FIG. 2, column 9 lines 10-16) referenced by the separate servers for System

Management Server 216 with the Call Manager 218 for traffic management from the

Central Router 210 for the switching processor obviously reduces the traffic

computations for a Central Router performing both functions with the guaranteed levels

of service based on the QoS criteria of the LCS 255 database.

Claim 6, Kung teaches wherein the data switching node further comprises information

exchange means enabling communication between the data switching processor and

the data traffic management (FIG. 2, column 7 lines 34-51) referenced by the interfaces

between the System Management Server 216 and Call Manager 218 forming the data

traffic management and the Central Router 210 forming the data switching processor.

Claim 9, Kung teaches wherein the information exchange means includes a working

store (Claim 2 lines 1-4) referenced by the storage of information in a relational

database in a memory.

Claim 11, Kung teaches wherein the data traffic management processor includes the

working store (FIG. 2, column 8 lines 64-67, column 9 lines 1-16, column 10 lines 1-16,

column 11 lines 36-55) referenced by the databases of the System Management Server

216 and the Call Manger 218 which are working stores.

Claim 17, Kung teaches wherein the information exchange means further comprises at

least one dedicated data bus for communication between the data switching processor

and the data traffic management processor (FIG. 2) referenced by the dedicated

interface between Central Router 210 and the System Management Server 216.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kung et

al. in view of Rao.

Claim 2, Kung teaches a simplified node IP service control using multiple processors

and databases. Kung does not teach a data traffic management database with

resource utilization information.

Rao teaches a data traffic management database (column 2 lines 23-29) referenced by

the call policy database, stores resource utilization information (FIG. 3, column 9 lines

4-15) referenced by the call policy parameters comparison to resource utilization, the

resource utilization information specifying a current state of the data traffic conveyed by

the data switching node (column 9 lines 16-22) referenced by the QoS level specifying

the current state of the data traffic.

Claim 3, Rao teaches wherein the resource utilization information is stored in a bit

encoded form (FIG. 11, FIG. 13) referenced by the Call Policy Record which is bit

encoded in a database.

Claim 4, Rao teaches wherein the data traffic shaping criteria includes data traffic

shaping heuristics (FIG. 11, column 14 lines 48-67, column 15 lines 1-8) referenced by

the call policy record definition of QoS level in conjunction with the Quality of Access

level to control traffic shaping heuristics, enabling the data switching processor to

enforce service level guarantee data traffic constraints on data traffic flows processed

by the data switching node (FIG. 13, column 1 lines 26-35, column 16 lines 4-38)

referenced by service level guaranteed implemented by the QoS access thresholds in

determining data packets to forward and switch.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the QoS call policy parameters of Rao to the Least Cost

Routing Server database of Kung for the purpose of providing tiered access to the

Internet for each incoming connection request.

3.   Claims 5, 7, 12, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kung in view of Jorgensen.

Claim 5, Kung teaches a simplified node IP service control using multiple processors

and a least cost routing database. Kung does not teach a service level agreement

database.

Jorgensen teaches a switching engine (FIG. 6) referenced by the IP Flow Scheduler

604, wherein the switching engine further comprises a service level agreement

database associated with the data traffic management processor (column 15 lines 19-

49, column 66 lines 28-30) referenced by the Service Level Agreement between a user

and a telecommunications service provider wherein QoS is defined to classes of service

which equate to QoS levels, the service level agreement database holding service level

guarantee specifications in providing data services (column 15 lines 19-49) referenced

by the service guarantees to a user based on the SLA wherein a specified level of

network availability is described.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the Service Level Agreements of Jorgensen to the Least Cost

Routing Server database with Quality of Service of Kung for the purpose of defining a

guaranteed level of network access to a user.

Claim 7, Kung teaches a simplified node IP service control using multiple processors

and a least cost routing database. Kung does not teach notification of processing of a

PDU.

Jorgensen teaches wherein the information exchange means includes a

communications protocol (column 75 lines 65-67, column 76 lines 1-7) referenced by

the Transmission Control Protocol, providing notification to the data traffic management

processor (FIG. 5B, column 78 lines 17-21) referenced by the TCP adjunct agent

waiting for notification from the PRIMMA MAC of successful retransmission in the event

of data corruption, upon processing at least one Payload Data Unit (PDU) (FIG. 12L,

column 59 lines 42-49) referenced by the MAC PDU which must be processed in order

to determine data corruption.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the TCP protocol of Jorgensen to access the Least Cost Routing Server database with Quality of Service of Kung for the purpose of defining a guaranteed level of network access to a user.

Claim 12, Kung teaches a simplified node IP service control using multiple processors and a least cost routing database. Kung does not teach a communication protocol. Jorgensen teaches wherein the information exchange means includes a communication protocol (column 75 lines 65-67, column 76 lines 1-7) referenced by the Transmission Control Protocol, the communications protocol including direct memory writes to the working store in providing notification of the processing of the at least one PDU (column 74 lines 23-36, lines 57-65, column 78 lines 17-24) referenced by the writes to queues which are memory stores while awaiting notification of error retransmissions when a corrupted PDU is processed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the TCP protocol of Jorgensen to access the Least Cost Routing Server database with Quality of Service of Kung for the purpose of defining a guaranteed level of network access to a user.

Claim 16, Kung teaches wherein the information exchange means further comprises a trigger associated with the data traffic management processor (column 30 lines 21-36)

referenced by the call manager sending a trigger for billing upon the reception of

uncorrupted PDU's, the trigger being activated by a notification of processing of the at

least one PDU (column 7 lines 3-27) referenced by the IP packet processed containing

PDU's for QoS requirements to establish the call.

Allowable Subject Matter

4.   Claims 8, 10, 13, 14, 15 are objected to as being dependent upon a rejected

base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

5.   Claims 18-22 are allowed.

Citation of Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. Patent 4456788, Kline et al. discloses a telecommunication trunk circuit

reporter and advisor using a traffic database. Patent 6389031, Chao et al. discloses an

apparatus to fairly scheduling queued packets using a RAM based search engine.

Patent 6542593, Bowman-Amuah discloses a rules database server in a hybrid

communication system.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to John L Shew whose telephone number is 571-272-

3137. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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